

## **ABSTRACT**

This invention presents a voicing determination algorithm for classification of a speech signal segment as voiced or unvoiced. The algorithm is based on a normalized autocorrelation where the length of the window is proportional to the pitch period. The speech segment to be classified is further divided into a number of sub-segments, and the normalized autocorrelation is calculated for each sub-segment. If a certain number of the normalized autocorrelation values is above a predetermined threshold, the speech segment is classified as voiced. To improve the performance of the voicing determination algorithm in unvoiced to voiced transients, the normalized autocorrelations of the last sub-segments are emphasized. The performance of the voicing decision algorithm can be enhanced by utilizing also the possible lookahead information.